Money Isn't All You're Saving

Industrial Partnership of ENERGY STAR®

SUMMER 2002 NEWSLETTER

Spring Networking Meeting Highlights

Lockheed Martin Corporation (LMC) hosted the ENERGY STAR 2002 Spring Networking Meeting at their World Wide Headquarters in Bethesda, MD. Meeting participants were greeted with evidence of LMC's commitment to energy performance as they entered the main lobby and saw the company's ENERGY STAR Building Label.

The meeting proved to be a great opportunity for partners and program team members to share their energy management success stores and learn tips and techniques from others in their field. ENERGY STAR received positive feedback about the meeting from the approximately 40 energy managers who attended from various

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Focus Meetings Held With Motor Vehicle and Beer Brewing Industries

Through its Industrial Partnership, ENERGY STAR identifies several manufacturing sectors each year for participation in a focused program that provides individual industries with an opportunity to improve energy performance. As part of the industry "focus," a summary of current energy efficiency options within the industry is prepared, a plant energy performance indicator for manufacturing facilities is developed, and a sector-specific working group aimed at improving energy performance starting at the corporate level is convened.

In June, ENERGY STAR held focus meetings with the Motor Vehicle and Beer Brewing Industries in Washington DC. The meetings represented a culmination of nearly nine months of previous work and discussions with these industries. The focus meetings also provided an opportunity to discuss improvements to the plant energy performance indicators (EPI) and put steps in place for completing the EPIs by early fall. ENERGY STAR was very pleased by the Motor Vehicle manufacturers' request to make the Motor Vehicle focus meeting an annual event for their industry.

SAVE THE DATE - November 13, 2002: Fall Networking Meeting

The Fall Networking Meeting of the Industrial Partnership will be held on November 13, 2002 at the Renaissance Los Angeles Airport Hotel. The meeting will be co-hosted by Johnson & Johnson whose Neutrogena Facilities are next door to the Renaissance Hotel.

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2003 ENERGY STAR Award Criteria Now Available

Criteria for the 2003 ENERGY STAR Awards are now available and applications are being accepted. Criteria and application information is available under the "What's New" heading on the ENERGY STAR website at: http://www.energystar.gov

Since 1996, ENERGY STAR has annually honored partners that have made outstanding contributions to improving energy performance. These awards recognize superior energy programs, public education and promotional efforts to raise awareness of the benefits of energy efficiency and ENERGY STAR.

This year, industrial partners are eligible to apply in the Leadership in Energy Management category. Final applications must be postmarked no later than December 16, 2002. Please contact Elizabeth Dutrow at dutrow.elizabeth@epa.gov if you have any questions.

On-Line Networking Meetings to Start in August

Starting August 21, ENERGY STAR will begin hosting monthly networking meetings using an Internet conferencing service. Each monthly meeting will be structured around a different energy management topic (see schedule on page 6) and will be held regularly on the third Wednesday of each month between 1:00 to 2:30 PM EST.

In addition to short interactive presentations to facilitate discussion, the Internet conferencing service will allow participants to share resources and provide examples from their own work.

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INDUSTRIAL PARTNERSHIP WEB SITE UPDATE

The web site for the Industrial Partnership was updated this spring to provide a greater variety of resources on corporate energy management. The updated site contains useful information on the Industrial Partnership, Strategic Energy Management Resources, and an Energy Manager library. In the coming months, ENERGY STAR will be expanding the web site to include information on the ENERGY STAR Strategy, communication strategies, and an Energy Manager's corner.

To get to the Industrial Partnership web site:

1. Go to main ENERGY STAR website – www.energystar.gov
2. Select "For Business" on the blue left-hand column.
3. Select "Industry" under the "Select Your Organization Type" menu on the green left-hand column.

INDUSTRIAL PARTNER NEWSLETTER

The ***Industrial Partnership Newsletter*** is produced twice a year by the U.S. EPA for the benefit of partners in the Industrial Partnership of ENERGY STAR. Please send comments or questions to Walt Tunnessen, tunnessen.walt@epa.gov

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The meeting will feature a tour of Neutrogena's 500 kW Photovoltaic roof-top generation system in addition to presentations and time for networking. A block of rooms at a reduced rate has also been reserved for the meeting.

For more information on the Fall Networking Meeting, visit the meeting web site at: http://www.epa.gov/buildings/fallnetworking

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manufacturing sectors. Highlights from the meeting are provided on the following pages.

Host Welcome

Ken Meashey, Vice President for Energy & Environment at Lockheed Martin Corporation (LMC), welcomed the participants to the company's World Wide Headquarters and expressed great pleasure that ENERGY STAR had chosen LMC as the venue for this landmark meeting. Ken made a special note of thanks to Bob Drury, the Energy Director at the building, under whose stewardship LMC received the ENERGY STAR Building Label, indicating that it was one of the top energy performing buildings in the country. Since joining ENERGY STAR ten years ago, LMC has successfully integrated the ENERGY STAR philosophy into its strategic energy management program and turned it into a profitable partnership for the company. With a portfolio of energy performance and pollution prevention projects with solid returns, both LMC and ENERGY STAR are winners in this story!

Lockheed Martin's Approach to Energy Management

Bob McMullen, Director of Energy Management at Lockheed Martin, described the evolution of LMC's energy management system from a once fledgling program into the organized institution it is today. When LMC began constructing an energy program, it was a pioneer in the field with few examples to follow. It was by trial and error that the company finally arrived at a formula that worked for them.

LMC initially focused its energy reduction efforts on procurement in a deregulated environment. They

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Pre-registration is required and participation is limited to ten logins, although there may be more than one person per Internet connection. Depending on demand and interest, additional conferences may be scheduled. A 56K modem (minimum) and separate phone line are required.

To register for an Industrial Partnership Web Conference, visit the online calendar at: http://es.imeet.com/regeval/calendar.asp

If you have questions about the web conferences, please contact Walt Tunnessen, Tunnessen.walt@epa.gov, (202) 564-9965.

Betsy Dutrow, Director of The Industrial Partnership of ENERGY STAR with Kamesh Gupta of General Motors, the 2002 Industrial Partnership ENERGY STAR Award Winner. With them are Gale Boyd of Argonne National Laboratory and Ernst Worrell of Lawrence Berkeley National Laboratory

negotiated contracts with energy providers to achieve energy savings through improved commodity prices. Many "windshield surveys" were conducted at this time and approximately $70 million worth of capital improvement projects were identified with an average return on investment (ROI) of 7 percent. These initial efforts did not prove to be as successful as planned since most of the project benefits were used to cover the costs of verifying the results of their performance contracts. Dissatisfied with the results from performance contracting, LMC looked for alternative methods to fund energy savings opportunities. They soon found that traditional energy service companies at the time focused on a project approach to energy

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reduction, an approach that did not meet their needs for a holistic energy program.

Having tried and failed with external contractors, LMC finally decided to create its own energy management system. The company started this process by first establishing a corporate energy policy with the support of senior management. The policy included cost and usage reductions as the main metrics for the program. Additionally, the company established facility level goals for usage management and assigned responsibility for energy procurement to corporate staff. LMC sums up its energy strategy in a simple slogan: "Buy Smart, Use Less."

In the beginning, energy capital projects were not adequately funded and Dave Weiland, Director of Energy Management at the time, had to push hard for energy infrastructure capital projects. He was able to convince senior management to reserve $8 million for this purpose based on meeting the company ROI requirements. The energy team realized that the corporate energy staff had to get involved because people at the facility level were not getting budgets approved for capital improvement projects related to energy. There was some miscommunication internally because senior management was under the impression that energy capital improvement projects were being financed in routine capital improvement projects, which was not the case. Dave Weiland was able to get $8 million earmarked for energy capital improvement projects only after facility level staff testified and changed this perception among senior management.

LMC has also been very successful in leveraging their partnership with ENERGY STAR. They have publicized ENERGY STAR throughout the company with very good results. Further, the corporate energy team has noticed that the visibility of the ENERGY STAR Label on the LMC Headquarters Building has focused attention on energy use from the executive offices down throughout the organization, and has paved the way for greater employee participation in the program. In addition, LMC is a strong supporter of the benchmarking tools provided by ENERGY STAR as a means of judging energy performance relative to their peers.

ENERGY STAR Account Representative Fred Schoeneborn with ENERGY STAR Industrial Partners Steven Schultz of 3M Company and George Weed of Eastman Kodak Company

The Industrial Partnership of ENERGY STAR

Betsy Dutrow, Director of the Industrial Partnership of ENERGY STAR described the partnership, its work with the industrial sector and benefits offered to partners. Industrial participants in Green Lights, Climate Wise and ENERGY STAR Buildings programs were integrated to form the Industrial Partnership of ENERGY STAR. Today the Partnership has a total membership of 477 partners from diverse manufacturing sectors including, cement, motor vehicle manufacturing, breweries, pharmaceuticals, machine builders and food processing.

The Industrial Partnership provides specialized support to facilitate energy performance in the manufacturing sector and includes a variety of new benefits that distinguish it from previous programs. Partners find that the Industrial Partnership of ENERGY STAR provides a tried and tested approach to strategic energy management, offers detailed focuses for specific manufacturing sectors, has a suite of tools including energy performance indicators for plants and buildings, assigns an energy professional to work with each partner and offers opportunities for partners to network and share ideas.

Together with their partners, the Industrial Partnership of ENERGY STAR hopes to help make energy performance a core corporate value and increase the visibility of energy managers and energy programs to senior management.

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ExxonMobil Energy Management System

Art Tenner, member of the Global Energy Management System Leadership Team for ExxonMobil, presented their approach, which he described as a "multidimensional initiative tied to our long-term business strategy." ExxonMobil found early on that the key to effective energy efficiency improvement is a sound strategy and strong leadership from the top – both of which they had. Analysis of their business lines revealed that the petroleum refining and chemical manufacturing business units accounted for the lion's share of energy costs.

As the first step in their strategy, ExxonMobil focused on these two business lines. They reviewed industry benchmarks – Energy Intensity Index (EII) for refining and Energy Efficiency Index (EEI) for olefins – and compared plant-by-plant performance to determine where they ranked and the magnitude of energy improvement opportunities. Benchmarking indicated that ExxonMobil could potentially improve energy utilization in refineries and chemical plants by 15 percent.

With this background information, a team of company experts compiled a system of performance measures and best practices for deployment at the plant level. In all, the design team compiled 1,200 pages of best practices for the key aspects of running refineries and chemical plants – from facilities design to operations, control and maintenance. The best practices provide the means to improve energy efficiency against a set of 200 performance measures.

Deployment of best practices at each plant yielded a prioritized portfolio of improvement opportunities, many of which required no or minimal capital investment. ExxonMobil found investment opportunities with paybacks less than one year by considering ideas that had not been previously explored. For example, they looked beyond competitive energy purchasing and examined fuel switching as a means to lower costs. Using this approach, they conducted exercises such as investigating the use of steam at lower pressures than before to maximize the use of lowest level energy and minimize losses.

The deployment approach used at its largest refinery and chemical-manufacturing sites relied on sending highly skilled specialist teams to each plant. The visiting specialists collaborated with a home team of plant employees in a rigorous assessment of current operating practices. They identified gaps relative to best practices and estimated costs and benefits associated with closing each gap.

ExxonMobil discovered that just as strong leadership from the top is needed for the initiative's success, plant management's buy-in is essential for implementation at each site. To reinforce support and build credibility, plant managers, engineers and operators who have implemented best practices are encouraged to share their experience.

Finally, ExxonMobil continually improves and maintains the high caliber of their Energy Management System and its best practices by measuring and tracking performance, networking to get new ideas, and conducting periodic reassessments.

Practitioner Panel – Communications Strategies For Building Support

George Weed, Worldwide Energy Manager for Eastman Kodak Company, spoke on "Kodak's Communication Strategies for Energy Management". Kodak is both a large user and generator of electricity. At Kodak's main facility in Rochester NY, Kodak Park, eighty percent of the power used is generated on-site by a coal burning power plant. As part of Kodak's strategy to reduce their greenhouse gas emissions, the company has started an aggressive energy program to reduce usage.

Following the inception of their energy management program, Kodak worked actively to promote the program internally as well as externally. The company identified their internal and external audiences and determined that the key message it wanted to communicate was how important energy and environmental management was to Kodak's image and bottom-line. To reach their internal audience, the Energy Management Office decided to use stickers, posters and energy scorecards that communicate corporate goals and link them with

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business unit goals. In addition, the corporate energy team developed letterhead and a web site for the energy program to give it a unique identity. To communicate to external audiences, Kodak chose to use publications such as the annual environmental report, press releases, and company newsletters. Kodak's most innovative publication however, is a neighborhood newsletter to inform the community of their energy related activities. The newsletter has been very well received by the community, and the company has won praise for their overall pollution prevention efforts.

Bob Brady, Energy Manager for Coors Brewing Company presented "Building Support for Energy by Communicating About Energy at Coors Brewing Company". Two years ago, Coors used one spreadsheet to track energy use by type and location. Today the company has more sophisticated energy scorecards that are complied from each facility. The scorecards are spreadsheets that show energy cost per facility versus plan on a quarterly basis. They are circulated among senior management so the program is much more visible now than it was two years ago. The system is also creating a more organized energy program.

Steven Schultz, Energy Manager at 3M Company spoke on "Energy Program Communications". 3M began by identifying communication target audiences such as executive management, 3M employees, external audiences, etc. Recently, the New York Times and the Wall Street Journal published an ad focusing on 3M's energy program. The 3M energy staff uses the company newspaper and energy web page to communicate with the entire 3M employee population, while they take a more focused effort with the operations staff by conducting personal visits, showing energy topics on 3M TV, and organizing regional energy conferences.

Walt Tunnessen, Manager of Networking for ENERGY STAR described some of the communication tools available to partners through ENERGY STAR. Participants were reacquainted with the ENERGY STAR logos, employee brochures, and recent public service announcements developed by EPA that can be used by ENERGY STAR Partners.

Ford Motor Company's Fuel Cell Projects

Jeff White, Energy Efficiency Manager for Ford Motor Company, provided an overview of several of Ford Motor Company's recent fuel cell projects. He began by describing Ford's use of United Technologies Corporation (UTC) PC 25 fuel cell that uses natural gas to produce 200 kW to help power an office building in California. Jeff then discussed a pilot project that is using fuel cells in an innovative emissions abatement technology.

Abatement of VOCs from stationary sources is a key environmental concern for Ford. Furthermore, current control technologies are a major source of energy consumption for Ford's assembly plants. However, rather than simply abate VOC emissions through incineration, Ford in partnership with Detroit Edison, has developed and piloted a system that uses VOC emissions to drive a fuel cell.

For the prototype system, Ford used a Proton Exchange Membrane (PEM) fuel cell because of its availability, relative low cost, size (5kW), and high-selectivity for hydrogen purity. Prototype testing of the fuel cell-VOC abatement system was successful and Ford is now pursuing the development of a commercially viable unit. However, for a commercial unit, a solid oxide fuel cell will be used because it is believed to be more durable than the PEM fuel cell.

Ford found that there are several operational and maintenance parameters that require very specific tracking for a fuel cell. Operational parameters include maintaining hydrogen concentration requirements within the cell and tracking the VOC destruction efficiency. The key maintenance parameters for operating the fuel cell system are monitoring corrosion performance and catalyst life. However, because these units require relatively less maintenance compared to conventional VOC abatement technologies and because the fuel cell abatement system generates electricity, Ford believes they will become a low cost abatement alternative for VOC.

ON-LINE NETWORKING MEETING SCHEDULE

TOPIC	DATE	TIME
Introduction to the Industrial Partnership	August 21, 2002	1 – 2:30 PM EST
Energy Policy Development	September 18, 2002	1 – 2:30 PM EST
Efficiency Strategies - Monitor Power Management	October 16, 2002	1 – 2:30 PM EST
Communication Strategies	November 20, 2002	1 – 2:30 PM EST
Assessing Energy Performance	December 18, 2002	1 – 2:30 PM EST
Technology Case Study: Rooftop Photovoltaic Generation	January 15, 2003	1 – 2:30 PM EST